X9001 – LIGHT FIXTURE

DESCRIPTION

X-1.1 General

a. This work shall consist of providing and installing 250W metal halide cut-off area light with fused 277V pulse start ballast and segmented type III optics on a 30 foot pole, and the foundation base for the same, as shown on the plans and as directed by the Engineer. It also includes all excavation, trenching, backfilling, and inspection of installation as a completed system. 30 foot square straight steel pole with mounting arms and brackets as required to mount two fixtures at 180 degrees. Pole shall include hand hole at base of fixture and pole shall have a white finish. Fixture shall be Gardco G18-1-3XL-250MH-277-WP-F-RPAF or equal by Lithonia or Kim. Pole shall be Gardco TRS-30-11-D1-WP or equal by Lithonia or Kim. Fixture and pole shall be by same manufacturer.

MATERIALS

X-2.1 General

a. This item included providing and installing a 250W metal halide flood light on a 30 foot pole, and the foundation base for the same as shown on the plans and as directed by the Engineer. All fittings, bushings, and hardware required for completion of this item are considered incidental.

b. Contractor shall furnish and install all lamps in fixtures as shown on the drawings and as specified herein. Lamps shall be manufactured by General Electric (GE), Westinghouse, Philips, Sylvania, or approved equal. Metal halide lamps shall utilize a clear envelope, mogul base, and be rated for 20,000 hours average.

c. Furnish and install all outdoor lighting fixtures, complete with lamps and top visor as shown on the drawings and as specified herein.

d. Contractor shall verify with fixture supplier that fixture is being supplied to meet all requirements listed.

e. All fixtures installed outdoors shall be suitable for the environment that they will encounter. All fixtures shall be UL listed for wet locations per UL standard 1572.

f. All lighting poles with fixtures as a system shall be designed to withstand a wind velocity of 90 MPH with gusts up to 1.3 times a 90 MPH wind velocity.

g. Steel lighting poles shall be round tapered steel and constructed of weldable hot-rolled carbon steel with a minimum yield of 55,000 psi. Poles shall have a uniform wall thickness of 0.1196 inches or thicker if required to meet structural requirements. A rectangular reinforced hand hole shall be provided for wiring convenience.

h. Contractor shall submit shop drawings and/or catalog cuts with pole, mounting system, and fixture details noted to the Engineer for approval prior to construction.

i. The Contractor shall supply all new anchor bolts and two (2) nuts for each anchor bolt. Leveling the luminairs shall be done after erection of and leveling of light poles.

j. Stranded copper ground wire installed as part of pole base, shall be attached to a ground nut located inside base of pole with an approved connector. (Fargo GC-202 or equal.)

k. Conductors to light fixtures shall be #8AWG and #6AWG copper, THWN or XHHN. All phase conductors at hand hole shall have a secondary, in-line fuse assembly, Bussman "Tron" type HEB fuse-holder or equal with a KTK fuse, rated 5 amperes or as required by the fixture manufacturer for the particular wattage and voltage of the fixture in question. Phase conductors shall be continuous between fuse assembly and light fixtures without splices. A sufficient length #8AWG and #6AWG shall be installed in light pole to permit removal of the fuse-holder through hand hole.

l. Electrical splices and connections shall be made with pressure or compression fittings as manufactured by Thomas Betts, Burndy, Scotchlock brand (Minnesota Mining and Manufacturing) or approved equal. Splices of conductors shall be electrically secure, shall be protected with vinyl plastic electrical tape equal to scotch #33 so that, in-line insulation shall be equal to that of remainder of conductor, and shall be covered with Scotchkote or equal. Connections, taps, and splices made with irregularly-shaped connectors shall first be built up with insulating putty to eliminate sharp corners and voids. Insulating putty shall be equivalent to "Scotchfill" as manufactured by Minnesota Mining and Manufacturing Co.

m. Finish on all new poles shall have one (1) coat of factory-applied primer and two (2) coats of enamel applied in the factory.

n. Provide mounting bracket of the same material as the pole and to both pole and fixture.

o. Contractor shall supply all new pole bases and include all items to be incorporated into bases, as shown on drawings.

p. Where installation of bases is specified for existing improvement areas, the Contractor shall remove and replace improved areas affected by installation.

q. General location of bases is as shown on plans, exact location and elevations shall be established in the field by the Engineer, except where noted on plans or otherwise specified. Bases shall be placed where staked by Engineer, unless otherwise specified. Elevations of bases shall be as shown on drawings or as required to meet grade criteria.

r. Forms shall be of sufficient depth to provide a minimum depth as noted below finished grade. Top surface of base shall be level with a ¾" bevel on edges and shall be given a float finish.

s. There shall be cast in to each base a ¾" x 10 feet copper weld ground rod. Ground rod shall extend a minimum of 6 feet below bottom of base. Ground rod shall be connected to one (1) anchor bolt with no. 4 stranded copper wire with an approved connector and shall also have a stranded copper wire protrude 36" above top of base.

t. Anchor bolts furnished by the Contractor shall be cast in base. These bolts shall be placed as directed as to location and projection above top of base.

u. Manufactured elbows shall be furnished and installed in all bases by the Contractor. The Contractor shall install elbows to permit cable entrance as shown on plans.

v. Contractor shall furnish all materials, equipment, and labor required to install light, pole, lamp, pole base, and wiring in pole as shown on plans described herein.